

## ABSTRACT

In a membrane electrode assembly 1 of a fuel cell, the porosity of a hydrogen electrode-side catalyst layer 11a is made to be lower than that of an air electrode-side catalyst layer 11b. Specifically, the weight ratio of ion-exchange resin to carbon carriers of the hydrogen electrode-side catalyst layer is made to be larger than such ratio of the air electrode-side catalyst layer, the hydrogen electrode-side catalyst layer is allowed to contain an additive having a certain particle diameter or less, or the hydrogen electrode-side catalyst layer is formed by spraying a catalyst ink and the air electrode-side catalyst layer is formed by a transfer method. According to the present invention, the amount of hydrogen that permeates from the hydrogen electrode-side catalyst layer to the air electrode-side catalyst layer via an electrolyte membrane is reduced to suppress a direct hydrogen combustion reaction in the air electrode-side catalyst layer, thereby improving the fuel cell durability.